

ABSTRACT

An improved fixative for tissue useful for bioprosthetic heart valves is provided. The tissue can have an elastin content and the elastin can be chemically fixed using a phenolic tannin, for example, tannic acid. The fixed elastin component provides greater mechanical durability and improved resistance to biological degradation following implantation. The tannic acid fixation protocol allows for biological material having a high elastin content, for example, about 30% or more. When used in combination with a glutaraldehyde fixative an additive effect can be seen in increased cross-link density and increased resistance to degradation and calcification.